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Spring/Summer 2002

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The Reporter is published by the Massachusetts Department of Public Health, Division of Food and Drugs, Food Protection Program and the Division of Community Sanitation. For further information on these and other topics, Food Protection Program staff may be reached by calling 617-983-6712 and Division of Community Sanitation staff may be reached by calling 617-983-6762.

This publication is sent to all Boards of Health in the Commonwealth. It is requested that a copy be circulated to all board members and interested employees. Other interested individuals and agencies may request a copy by contacting the Editor.

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Letter from the Directors:

Paul J. Tierney, Division of Food and Drugs, Food Protection Program
Howard S. Wensley, M.S., C.H.O., Division of Community Sanitation



In late October 2002, when the last edition of THE REPORTER was being completed, staff at the Food Protection Program (FPP) was working 7 days a week coordinating and retrieving suspect anthrax samples throughout the Commonwealth. This was a massive effort, and all participants excelled in their commitment, professionalism, and extraordinary willingness in the face of the unknown and potentially dangerous event.

The suspect anthrax sample retrieval work continued through the beginning of 2002. During this period, 959 samples were transported to the State Laboratory. FPP staff worked in conjunction with personnel from the Massachusetts Division of Fire Services, local police and fire departments, local boards of health, the Massachusetts Department of Food and Agriculture, and other Department of Public Health divisions, including the Division of Community Sanitation, Division of Radiation Control, Division of Health Care Quality, and the Western Massachusetts District Health Officer.

With the increased need for biosecurity, the FPP became one of the Massachusetts Department of Public Health participants in the CDC biosecurity grant applications. In anticipation of funds for additional personnel, the FPP has begun to develop vulnerability assessment evaluation tools for wholesale food facilities.

Even though staff was responsible for transporting an average of a dozen suspect anthrax samples every day, 7 days per week, during this period, the day-to-day routine work of the Food Protection Program and Division of Community Sanitation continued. For example, an advisory committee was convened to review a draft of proposed revisions to the frozen dessert regulations (105 CMR 561.000: Frozen Desserts and Frozen Dessert Mixes). The June 2002 draft will incorporate new enforcement actions and sanitation standards as well as recommendations and refinements.

In addition, the bottled water regulations (105 CMR 570.000 The Manufacture, Collection, and Bottling of Water and Carbonated Non-Alcoholic Beverages) have been revised, and a public hearing will be held in June 2002.

Two initiatives begun by the FPP in Autumn 2002 have been notably successful.

- As earlier reported, in conjunction with the MDPH Division of Communicable Disease, the FPP was awarded a CDC (U.S. Centers for Disease Control and Prevention) grant to improve the ability of local boards of health to conduct foodborne illness surveillance. A component of the grant includes the creation of guidelines as well as the development and training for foodborne illness investigations.


In May 2002, a pilot of the training program and curriculum was presented to 15 local health agents who have food establishment and foodborne illness responsibilities. It is anticipated that the full program for the training of local health agents in the investigation of foodborne illness will begin in Fall 2002.

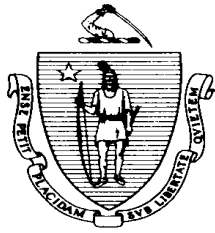
- Also in Fall 2001, the FPP received an Innovative Food Safety Grant from the U.S. FDA. The goal of the grant is to develop standardized instructions for local and state retail food regulators in the initiation, evaluation and verification of HACCP and risk-control plans in retail food establishments. Presently, a pilot training session with 20 local health agents as participants is scheduled for June 2002. Plans are being made to begin presenting the course in Fall 2002.

In cooperation with the Massachusetts Environmental Health Association (MEHA), the Division of Community Sanitation assisted in the development and presentation of housing inspection training. More than 175 members of local boards of health attended the 1-day program in Worcester. The highlight of the day was the powerful and motivational presentation by William Abrashkin, First Justice of the Housing Court in Springfield. The judge emphasized the vital need and importance of housing inspections, and his respect and gratitude for the front-line local board of health inspectional staff that perform this work. He also cautioned boards of health on the need for ensuring that all procedural aspects of their work be in compliance with the applicable statutes and regulations.

The Department received a federal EPA (Environmental and Protection Agency) grant for the testing and maintenance of marine beaches. The Bureau of Environmental Health Assessment along with the Division of Community Sanitation will be partners in this endeavor. Proposed work includes the development of curriculum and training for local board of health personnel, and an extensive study of some of the problem saltwater beaches - defined as those beaches that have had multiple postings resulting most often from excessive bacteria counts.

After 16 years working for the dairy industry at AgriMark, Ellen A. Fitzgibbons joined the FPP as the supervisor of the Dairy Plant Inspection Unit. Ms. Fitzgibbons, a former president of the Vermont Dairy Industry Association, continues to serve on the board of directors of the Association.

During the Winter 2002, an early retirement package was offered to state employees who were either 55 years of age or who had 20 years of service. Walter Hohmann, Supervisory Inspector of the Seafood Unit opted to take this package, and retired after 32 years of service in the Food Protection Program. Inspector Hohmann began his career in the meat and poultry inspectional unit, but spent most of his years of service in the seafood unit. Not only was Inspector Hohmann known throughout the Commonwealth as a thorough and diligent inspector, but he also had widespread recognition through his participation in the Northeast Shellfish Sanitation Association and as an active member of the Northeast State Standardization Officers. 



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Food Protection Program Policies, Procedures and Guidelines

Issue: General Guideline for the Safe Preparation of Sushi

No: RF 3-2

Background

There are several food safety concerns, which are unique to the preparation and service of sushi in the retail setting. The rice handles best at temperatures between 70° and 80° F, which is a favorable temperature range for pathogen growth. In addition, many people prefer to eat sushi at room temperature, which makes refrigeration storage less desirable. Raw fish is a common ingredient in sushi and may contain harmful bacteria and viruses. Many species of fish are known to harbor harmful parasites. Sushi made with raw fish is often prepared alongside sushi prepared with cooked and vegetable ingredients which increases the risk for cross-contamination of cooked products from raw ingredients. Lastly, sushi is in demand. Once found only in Japanese restaurants, sushi is now commonly prepared and sold in many restaurants, smaller retail markets and large supermarkets.

Sushi rice

Many sushi chefs prefer to use the rice at room temperature. Since cooked rice is a potentially hazardous food (PHF), this practice can pose a significant health risk. There are three basic strategies that can be used to prepare and hold the rice safely.

1. Sushi rice is typically acidified with rice vinegar. If the pH of the rice is brought down to below 4.6, the rice will no longer support the growth of pathogens and can be considered a non-PHF. Rice that has been properly acidified can be left out at room temperature. However, if an establishment wants to rely on acidification to make the rice safe, the pH of every batch must be checked to insure that the rice has been rendered a non-PHF in accordance with the Department's guideline on Making Cooked Rice a Non-PHF.
2. An establishment that chooses not to use acidification to make the rice a non-PHF must use approved time and temperature controls to prevent pathogen growth.
3. Establishments which prepare sushi for immediate consumption may obtain a variance to use Time as a Public Health Control to hold the rice at room temperature during preparation and service. The variance must be in accordance with the Department's guideline on using Time as a Public Health Control.

Parasites

Many species of finfish naturally contain parasites. These parasites do not harm the fish or hurt the quality of the meat, but they can cause illness in humans. Because freezing kills parasites, most finfish needs to be frozen prior to being served raw. The U.S. Food and Drug Administration (FDA) requires that fish be frozen at -4° F for 7 days or at -35°F for 15 hours in order to insure parasite destruction. The only raw fish, which does not need to be frozen, are those species in which parasites are not a natural hazard. The establishment can freeze the fish on the premises but must document that proper freezing temperatures and times were achieved. The time and temperature records must be kept for 90 days. Alternatively, establishments can purchase fish which has already been frozen if they first obtain a letter from the supplier stating that the fish was frozen according to the required time and temperature specifications.

Consumer advisory

Freezing does not destroy bacterial or viral pathogens. Therefore, when sushi containing raw fish is served or sold, the consumer should be advised of the increased risk of foodborne illness as required in section 3-603.11 of the 1999 Federal Food Code.


Cross-contamination

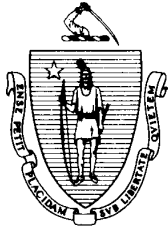
Care must be taken to avoid cross-contamination between raw and cooked ingredients that are being prepared. Each ingredient should be kept in separate containers and held at proper temperatures. There should be separate set-ups for raw and cooked products if possible. A set-up consists of a bamboo mat, a knife and a cutting board. If separate set-ups are not possible, then the utensils should be cleaned and sanitized between preparation of sushi containing raw fish ingredients and sushi containing other ingredients.

The bamboo mats are hard to clean and sanitize. Therefore the mats should be wrapped in plastic and rewrapped in new plastic wrap at least every four hours or after use on raw fish.

Bare-hand contact

Preparing sushi requires good hand dexterity and has traditionally involved a lot of bare hand contact. Bare hand contact with the ready-to-eat ingredients should be avoided. Nitrile gloves (non-latex) can be used without sacrificing the “feel” and dexterity needed. If sushi chefs wish to use their bare hands, they must first develop a written plan in accordance with the Department’s policy on Alternative to Bare-hand Contact with Ready-to-eat Foods.

Sushi has become increasingly popular in Massachusetts. Done correctly, the risks can be minimized and the safety of sushi can be assured. 



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Food Protection Program Policies, Procedures and Guidelines

Issue: Using Acidification to Make Cooked Rice a Non-Potentially Hazardous Food

No: RF 3-3

FC 3-502.11, FC 8-201.13, and FC 8-201.14

Purpose

Any food establishment, which acidifies rice in order to render it a non-potentially hazardous food, must obtain a variance from the board of health (BOH) in accordance with FC 3-502.11 Variance Requirement. A request for such a variance must be accompanied by a HACCP plan in accordance with FC 8-201.13. FC 8-201.14 identifies the required contents of a HACCP plan including the identification of hazards, critical control points (CCPs), monitoring procedures, critical limits and corrective actions. The plan must also identify records maintained for monitoring CCPs and methods for verifying that the plan is working.

Public Health Rationale

A Hazard Analysis Critical Control Point (HACCP) plan is necessary when conducting specific food processes such as acidification. Such processes have historically resulted in more food-borne illness than standard processes. They present a significant health risk if not conducted under strict operational procedures. Cooked rice is a PHF. If the pH of the rice is not brought down below 4.6, it may be able to support the growth of pathogens when stored at room temperature. The preparation of vinegared sushi rice may require the person in charge and food employees to use specialized equipment and demonstrate specific competencies. The variance requirement is designed to ensure that the proposed method of operation is carried out safely.

The HACCP plan must include the following:

- ❑ There must be a written recipe or formulation for acidifying the rice. The recipe must contain the weights of rice and water needed prior to cooking. The recipe must be validated by a food laboratory to show that it results in cooked rice that has a target pH of 4.1 Any change in the recipe would require lab validation of the new recipe before it may be used. For example, switching to a new brand of vinegar is a significant change and necessitates the revalidation of the recipe.

- ❑ Cooked rice must be cooled in a shallow container that is less than 4" deep to promote rapid cooling of product and uniform acidification.
- ❑ One of the CCPs must be the pH of the cooked rice. A calibrated pH meter or pH test strips must be used, according to manufacturer's instructions, to monitor the pH of every batch of acidified rice. The pH strips must be able to detect 0.1 unit differences in pH. The target pH should be 4.1 but must not exceed 4.6.
- ❑ The results of the pH measurement of each batch of rice must be properly recorded, and the records must be retained for 30 days.Ô

EVALUATION TOOL FOR ACIDIFIED RICE HACCP PLANS (last updated on 11/6/01)

- ☐ **Standard Operating Procedures (SOP)**
Most recent inspection report indicates compliance with 105 CMR 590.000. Any pre-existing violations, which may result in biological, physical or chemical contamination of this product, have been corrected.
- ☐ **SOP for pH measurement**
 - Manufacturer specs and calibration instructions for pH meter or pH paper (.1 scale) used provided
 - pH meter calibrated daily when used
 - Buffer solution, which has not passed expiration date, used
 - 4.0 Buffer solution (unless manufacturer recommends otherwise) used
 - Instruction for measuring pH of rice slurry made with distilled water provided
 - pH calibration log maintained
- ☐ **Recipe/Formulation Provided**
 - Brand of vinegar identified
 - Recipe/formulation (at or below pH4.1) validated, signed and dated by a food laboratory
- ☐ **Preparation Steps Identified**
- ☐ **Hazard Analysis Included**
Growth of *B. cereus* and production of toxins identified
- ☐ **CCP Identified**
Acidifying step (addition of vinegar to rice)
- ☐ **Critical Limit Identified**
pH of acidified rice not to exceed 4.6
- ☐ **Monitoring Procedures Identified**
 - Calibrated pH meter or pH papers used to measure each batch of acidified rice
 - Who will test pH identified
- ☐ **Corrective Actions and Documentation Procedures Identified**
If rice not tested, do not use until tested. If rice is above 4.6,
 - Re-mix and test again
 - Verify use of correct recipe and procedures
 - Verify calibration and proper use of pH meter or pH papers
 - Discard if rice not made within the hour
 - If rice made within the hour, cool immediately or add additional vinegar and re-test pH
- ☐ **Records to be Maintained Identified**
 - pH log for each batch of rice (sample page included) maintained for 30 days
 - Corrective actions recorded in log (sample page included)
 - Daily calibration log maintained for pH meter
- ☐ **Verification (Short Term/Long Term) Process Identified**
 - Monitoring records reviewed daily by PIC
 - pH of rice tested by a food laboratory every 6 months or when recipe is modified or when daily pH levels are consistently higher than the laboratory validated pH measurement
 - Signed and dated HACCP plan reviewed and modified at least annually or as needed by PIC.
- ☐ **Employee Training Plan Documented (sample of training log provided)**
 - Employee Health and Hygiene
 - Cleaning and Sanitizing Procedures
 - Cross-contamination Prevention Procedures
 - Monitoring Procedures for Acidified Rice
 - Use of pH meter or pH papers
 - Corrective Actions
 - Record-keeping Requirements

GUIDELINES ON PEST CONTROL

Larry A. Ramdin, MA ,CQA, CQA-HACCP
Health Inspector City Of Newton

When selecting a pest control contractor or reviewing your current pest control services, to ensure that you are provided with an adequate pest control program, it is important to consider the following:

Only licensed pest control operators may apply chemicals in the food facility. Unless the person is a licensed pest control operator, food establishments owners and management are prohibited from applying pesticide chemicals. The application of pesticides by an unlicensed person in a commercial facility is a violation of the pesticide control regulations and could lead to food contamination.

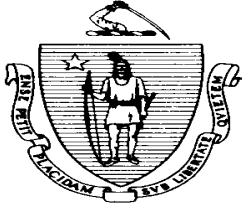
- The pest control operator must be a licensed Pest Control Operator (PCO), (*a Category 50 permit is recommended.*) Select an individual with experience treating pests, and licensed to work in a food facility *Ask the PCO who their clients are, how long the PCO has been in business, and what type of pests would they treat for?*
- They PCO should discuss alternative methods to chemical treatment with the goal to minimize the use of chemicals. Integrated Pest Management (IPM) is a method that many pest control companies try to implement in order to minimize the use of chemicals. IPM involves the client's participation, including the food establishment's commitment to assuring the proper disposal of food, and reducing the access and harborage areas for pests.
- Will the pest control contractor conduct a pre-treatment survey? *Before providing a price estimate or applying chemical, the contractor should check your facility for pests in order to evaluate your pest problems.*
- Will the pest control contractor provide a treatment program? *A pest control plan should outline the problems and what has to be done to control or eliminate the problem. For example, the plan should include information about storing trash properly, cleaning basement storage areas, picking-up spilled food, sealing holes and spaces that allows pest to live or get into the building.*
- The pest control contractor should tell you what type of pests they will be treating, e.g.,- rodents, flies, flying insects, ants, stored grain insects. *The contractor should provide you with a list of precautions to heed, and post a sign on every room in the facility that has been chemically treated for pests.*
- You should be provided a report indicating the work performed, the chemicals used and the EPA registration number(s) of the pesticide(s).
- This report should include the pest control operator's applicators name and License number.
- The PCO applicator should provide a layout map of all pest control stations. The map should indicate the chemical application activity at each location. These stations should be clearly identified with location markers.
- After treatment, the pest control operator should tell you, what conditions were found and what you should do to reduce or eliminate pests if future is observed.

?? DO NOT ACCEPT a PCO who enters the food establishment and immediately sprays chemicals and leaves a bill without discussing what work was performed, the pest activity found, and what you should do to control any pest activity.

IF YOU HAVE ANY QUESTIONS,

CONTACT YOUR LOCAL BOARD

THE HEALTH DEPARTMENT IS OPEN:



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Food Protection Program Policies, Procedures and Guidelines

Issue: Guideline on Latex Glove Use in Retail Food Establishments **No:** RF 3-5

The Massachusetts Department of Public Health and the National Institute for Occupational Safety and Health (NIOSH) recommend that latex gloves NOT be used in food establishments. Latex gloves may cause severe allergic reactions in certain sensitized individuals. As stated in 105 CMR 590.004(E), **single-use natural rubber latex gloves are *not recommended* in food establishments.**

Symptoms of Latex Allergy

Latex allergies can produce a variety of symptoms, including skin redness, hives, itching, runny nose, sneezing, itchy eyes, scratchy throat, and asthma. While many cases are mild, in severe cases, exposure to latex may result in anaphylactic shock, a life-threatening condition. Symptoms may occur within minutes of exposure to latex or, in the case of allergic skin reactions, take up to 2 days to become evident.

Occurrence of Latex Allergies

Studies done on health care workers show that because of the repeated and prolonged exposure to latex gloves approximately 10% of this population has developed sensitivities to latex. Food establishment employees who repeatedly use latex gloves, may also be at risk of developing sensitivity to latex which could result in their becoming allergic to a wide range of latex containing products. There is a concern that if food employees continue to use latex gloves, a significant percentage may develop allergies to latex.

Consumers who are sensitized to latex can be at risk if they consume food that has been handled by workers wearing latex gloves. The allergens from the gloves can be transferred to the food, and may cause a reaction in allergic individuals. Recent reports in the scientific literature indicate that approximately 1% to 6% of the general population are sensitized to latex. Although reactions appear to be rare, sensitized people may be at risk of experiencing an allergic reaction should they eat food which has been handled with latex gloves.

Recommendations

Food establishments should avoid the use of latex gloves. Good substitutes for latex gloves are available and include, vinyl, nitrile, polyvinyl, chloroprene, or polyethylene gloves, and deli tissues and tongs. As always, good handwashing practices are critical in food service operations.

Important Points


- Latex gloves are not recommended for use in food establishments.
- Repeated use of latex gloves has been shown to increase the risk of developing allergies to latex.
- In rare instances, consumers who have latex allergies may react to food which has been handled with latex gloves
- Good alternatives to latex gloves are available and include:
 - o polyvinyl
 - o nitrile
 - o chloroprene
 - o polyethylene
- Use of gloves can be limited by using utensils and deli tissues.
- Use of gloves does not decrease the need for good handwashing practices.

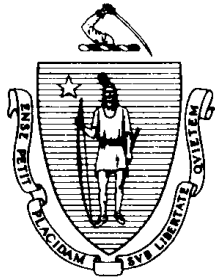
Internet Resources on Latex Allergies

The National Institute for Occupational Safety and Health (NIOSH): www.cdc.gov/niosh/latexalt.html. Contains the full text of NIOSH's alert on latex allergy.

The Occupational Safety and Health Administration (OSHA)
http://www.osha-slc.gov/html/hot_3.html. Contains the full text of OSHA's Technical Information Bulletin on latex gloves.

Latex Allergy Links

<http://latexallergylinks.tripod.com>. Latex Allergy Links is a comprehensive and up-to-date listing of latex allergy-related sites on the Internet. It also includes articles and practical information about latex allergy, a message board, chat room, mailing list and guest book. This educational networking site is brought to you by the members of Elastic, Inc., the National Latex Allergy Network. 



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Massachusetts Food Protection Manager Certification Exam and Trainer Directory

This directory was compiled to assist individuals and retail food businesses to find training programs and/or examinations for compliance with the food protection management certification requirement in 105 CMR 590.003 (A)(2). Trainers listed in this directory:

- 1) meet the recommended instructor qualification identified in the *Massachusetts Guideline for Food Protection Manager Training Programs*,
- 2) use one or more of the Food Protection Manager Certification exams recognized in Massachusetts. The exams are provided by one of the four accredited test development organizations listed below, and
- 3) include in their training, the provisions of 105 CMR 590.000 that are unique to Massachusetts.

When choosing a trainer, we strongly recommend that you contact as many trainers as possible and obtain the following information:

- Examination offered (see list below)
- Educational background of the trainer
- Length of training/class schedules
- Food safety experience of the trainer
- Cost of exam and/or training
- References from previous students

Nationally Accredited Exam Organizations Recognized in Massachusetts

Certifying Board for Dietary Managers

406 Surrey Woods Drive
St. Charles, IL 60174
800-323-1908

National Registry of Food Safety Professionals

1200 E. Hillcrest St., Suite 300
Orlando, FL 32803
800-446-0257

Experior Assessments

600 Cleveland St., Suite 900
Clearwater, FL 33755
800-200-6241

ServSafe


The Educational Foundation of the National Restaurant Association
250 South Wacker Drive, Suite 1400
Chicago, IL 60606-5834
800-765-2122

The Massachusetts Department of Public Health does not endorse or recommend any of the individuals or organizations presented on this list nor does the Department preclude anyone not on the list from conducting food safety training. The Department does not evaluate trainers and does not guarantee the success of their programs. Please note that this is not a comprehensive list and, although it is periodically updated, there is no guarantee that all information is current. You may also contact industry and regulatory organizations as well as telephone directories for further listings.

Trainer	Company/Organization	Instructional Languages
Shixian Sheng	Asian American Civic Association 200 Tremont Street Boston, Ma 02116 Tel: 617-426-9492 Ext. 222 Fax: 617-482-2326 shixians@yahoo.com	<i>Chinese/Mandarin</i>
David Nash, Ph.D., MPH, CFSP	American Food Safety Institute One Green Street Hulmeville, PA 19047 Tel: (800) 723-3873 Fax: (215) 757-9521 foodsafes1@aol.com http://www.americanfoodsafety.com	<i>English, Spanish</i>
Allen Gromko, CFSP	ARG Associates 11 Heard Drive Ipswich, MA 01938 Tel: 978-356-4942 Fax: 978-356-9606 Arg2000@msn.com http://www.argassociates.com	<i>English</i>
Lisa Berger, MPH	Berger Food Safety Consultubg PO Box 180446 Boston, MA 02118 Tel: 617-859-2942 Fax: 617-859-2943 lisamberger@yahoo.com http://www.servingssafefood.com	<i>English</i>
Carol S. Mier, MA. RD, LDN	Food Safety Training 77 Delcar St. Fall River, MA 02720 Tel: 508-678-1467 Miercarol@netscape.net	<i>English</i>
Khalil S. Zadeh, DVM, MPH	Lapuck Laboratories, Inc. 70 Shawmut Road Canton, MA 02021 Tel: 781-401-9999 Fax: 781-401-9998 kszadeh@lapucklabs.com http://lapucklabs.com	<i>English</i>
Lisa Berger, MPH	Massasoit Community College 1 Massasoit Blvd Brockton, MA 02302-3996 Tel: 508-588-9100 Ext. 1307, Ext. 1509, Ext. 1692 Fax: 508-427-1250—Brockton Campus Emonteiro@massasoit.mass.edu http://www.massasoit.mass.edu/index.htm <i>Training also available on Canton Camppus at 900 Randolph Street, Canton.</i>	<i>English</i>

Trainer	Company/Organization	Instructional Languages
Sam Wong, Ph.D.	MD Consulting PO Box 133 West Boylston, MA 01583 Tel: 508-835-9898 Fax: 508-835-9898 mdconsulting@charter.net	<i>English, Chinese</i>
John Morrell, Ph. D., RS, CHO	Morrell Associates PO Box 268 Marshfield, MA 02050-0268 Tel: 781-837-1395 Fax: 781-837-4820 http://www.morrell-associates.com	<i>English</i>
Patricia Alves, MBA	Patricia Alves 10 King's Row Sandwich, MA 02563 Tel: 508-888-6351 PatriciaEdwar@cs.com	<i>English</i>
Richard Doyan, MS	Pilgrim Hospitality 98 West Border Road Malden, MA 02148 Tel: 781-388-1131 Fax: 508-862-0105 pilgrimone@aol.com	<i>English. Spanish</i>
Ronald Herzberg, RS	RJH Associates 70 Shawmut Road Canton, MA 02021 Tel: 781-401-9944 Fax: 781-401-9998 http://www.rjhassociates.net	<i>English</i>
Robert Womack, MBA	RJH Associates 70 Shawmut Road Canton, MA 02021 Tel: 781-401-9999 Fax: 781-401-9998 http://www.rjhassociates.net	<i>English</i>
Pamela Ross-Kung, MS, RS	Safe Food Management PO Box 8764 Boston, MA 02114 Tel: 617-523-5450 Fax: 617-248-6039 pamela@safefoodmanagement.com Http://www.safefoodmanagement.com	<i>English, Chinese, Spanish</i>

Trainer	Company/Organization	Instructional Languages
Anthony J. Penta	Safe Food Management 73 South Ave. Revere, MA 02151 Tel: 617-523-5450 Fax: 617-248-6939 tony@safefoodmanagement.com http://www.safefoodmanagment.com/	<i>English, Chinese, Spanish</i>
Suzanne Stimson	Stimson Resources 69 Elm St. Franklin, MA 02038 Tel: 508-541-8346 Fax: 508-541-8391 tset.stimson@worldnet.att.net	<i>English</i>
Rita Brennan Olson, MS, RD	UMASS Extension Service Chenoweth Laboratory Amherst, MA 01003-1420 Tel: 413-545-0552 Fax: 413-545-1074 ritabo@nutrition.umass.edu	<i>English</i>
Eric Nusbaum, Ph.D	Wheelright Consultants 15 Grove St. Greenfield, MA 01301-2325 Tel: 413-774-2786/413-834-7051 Fax: 413-774-1726 nusbaum@concentric.net http://www.wheelwrightconsultants.com/	<i>English</i>

Directory updated on 1/14/02. 

Local Boards of Health Reporting Requirement Summary: 2000

Each year local boards of health are required to report food protection statistics to the Department of Public Health, Division of Food and Drugs in accordance with 105 CMR 590.010(F). In the year 2000, the Division received completed surveys from 65 percent of local boards of health. This is the highest response rate that the Division has ever received for this survey. The information obtained has been used to evaluate the need for training and has provided the Division with an overview of local board of health food sanitation programs.

Training Program Requests

Over 33 requests for training programs were received from local boards of health. As a result of these and previous requests, the Division is currently organizing training programs in: Risk-based Inspections, Foodborne Illness Investigations, and HACCP Requirements. These trainings will be offered to all local boards of health in the very near future.

Internet Access

Seventy-six percent of responding boards of health have access to the internet. This reflects an 18 percent increase since 1999. Internet access has become increasingly useful in obtaining food safety information from DPH, FDA, USDA and other websites. Boards of health are encouraged to visit the Retail Food Protection website at www.state.ma.us/dph/fpp/retail.

Board of Health Staffing

In 2000, 39 percent of the reporting boards of health had at least one full-time-equivalent (FTE) inspector dedicated to food protection. Eight percent of boards of health had no food inspectors on staff. Of the reporting boards of health 16 percent had an increase in staff assigned to food protection activity, 9 percent had a decrease, and 75 percent stayed the same. This indicates a small improvement in board of health staffing since the previous year.

The 2000 survey results indicate that many health inspectors possess professional credentials. Ninety-five percent of responding boards of health employ at least one Certified Health Officer, Registered Sanitarian, or Certified Food Protection Manager. This is a 5 percent improvement from 1999.

Establishments

A total of 34,080 licensed food establishments were reported for 2000. This number includes: foodservice establishments, residential kitchens, mobile food operations, and temporary events. See adjacent chart.

Type of Food Establishment	Number
Foodservice Establishment	27,262
Residential Kitchens	798
Mobile Food Units	1410
Temporary	4610
Total	34,080

Inspection activities

Thirty-nine percent of responding boards of health were able to conduct the required two inspections per year for each food establishment. This figure has decreased by one percent since 1999.

Complaints

The responding boards of health reported 10,476 general complaints and 793 foodborne illness complaints.

2001 Survey

Each year the Division will continue to collect information from local boards of health regarding their food protection programs. The 2001 survey has been mailed in May 2002 with a requested return date of June 2002. **Ô**

Massachusetts Shellfish Harvesting and Distribution

Massachusetts Department of Public Health
Division of Food and Drugs
305 South Street
Jamaica Plain, MA 02130
617-983-6712

This document contains information in response to questions frequently asked by the seafood industry.

A complete copy of the state and federal regulations may be obtained at the bookstores and websites listed at the end of the document.

Shellfish Harvesters



- Shellfish Harvesters must be properly licensed by the Massachusetts Division of Marine Fisheries (DMF): 617-626-1520.
- Every container of shellfish must have a proper and completed harvester tag attached to it prior to landing.
- Proper harvest area designations must be used on harvester tags. (Bed certificate numbers are no longer valid and not allowed.) State-designated shellfish area numbers may be obtained from local Shellfish Departments or the Massachusetts

DMF Pocasset Office: 508-563-1779.

- A shellfish harvester (including grant holder) may sell shellfish, using a transaction card, only to a properly-permitted Massachusetts Wholesale Dealer
- Shellfish transported by a harvester shall be adequately protected from temperature abuse and environmental contamination.
- A harvester shall retain a copy of each transaction slip for 90 days.
- Harvesters are exempt from the federal Seafood HACCP regulation (21 CFR 123).

Retail Stores

- Any market engaged in the retail sale of seafood, including shellfish, must hold a valid retail store permit issued by the Massachusetts Division of Marine Fisheries: 617-626-1520.
- A Retail Store must operate from a fixed location which has been approved by the Massachusetts Division of Food and Drugs.
- A Retail Store may purchase shellfish only from a licensed Wholesale Dealer or Wholesale Truck.
- Proper shellfish tags must be attached to each container of shellfish. The tag must remain attached until the container is empty. Thereafter, the tag must be kept on file for 90 days.
- Shucked shellfish may only be purchased from a properly-permitted Wholesale Dealer or Wholesale Truck.
- Every container of shucked shellfish must be labeled in accordance with NSSP requirements, including the date shucked and the certification number of the processor.
- A Retail Store may not shuck shellfish.
- A Retail Store may not Wet Store shellfish.
- Retail Stores are exempt from the federal Seafood HACCP regulation (21 CFR 123).

Wholesale Trucks



- Any person purchasing, selling or distributing shellfish for wholesale purposes from a truck must hold a valid Wholesale Truck permit issued by the Massachusetts Division of Marine Fisheries: 617-626-1520.
- A Wholesale Truck permit is not required if the firm holds a valid Massachusetts Wholesale Dealer permit.
- All Wholesale Trucks must be inspected and approved by the Massachusetts Division of Food and Drugs.

- All Wholesale Trucks must be equipped with a combination of insulation and mechanical refrigeration capable of maintaining the storage compartment of the truck at 45°F or less. The storage compartment must have smooth, easily cleanable floors, walls, and ceilings and tight-fitting doors.
- Shellfish may be purchased only from Wholesale Dealers.
- Wholesale Truck operations may not purchase shellfish directly from a Harvester.
- A bound ledger (with numbered pages) must be maintained documenting the purchase and sale of all shellfish.
- Wholesale Truck operations may not re-tag or process shellfish.
- All Wholesale Trucks must bear the name of the dealer, permit number, and the words "Shellfish Dealer." Lettering must be at least 4 inches in height, and displayed on both sides of the vehicle.

Wholesale Dealers

- Any person purchasing, selling, or distributing seafood, including shellfish, for wholesale purposes must hold a valid Wholesale Dealer permit issued by the Massachusetts Division of Marine Fisheries: 617-626-1520.
- A Wholesale Dealer must have a fixed location approved by the Massachusetts Division of Food and Drugs (DFD).
- Wholesale Dealers who transport shellfish must also comply with all Wholesale Truck regulations.
- A Dealer may purchase shellfish directly from a licensed Harvester, Wholesale Truck, or another Wholesale Dealer.
- Every container of shellfish in a Dealer's facility must have attached to it a proper and complete shellfish tag.
- The Dealer must keep a bound ledger (with numbered pages) documenting the purchase and sale of all shellfish. Computer records may be acceptable, if approved by the Massachusetts DFD.
- When purchasing shellfish from a Harvester, the Dealer must mechanically imprint the harvester's transaction card onto a serialized transaction slip.
- When re-tagging shellfish, the Dealer must correctly transfer all of the information from the original tag.
- Wet Storage may be conducted only with written approval from the Massachusetts DFD.
- A HACCP plan and maintenance of Sanitation Records are required by the federal Seafood HACCP regulation (21 CFR 123).

Interstate Shellfish Dealers



- In order to ship shellfish across state lines, a firm must be listed on the Interstate Certified Shellfish Shipper's List (ICSSL).
- To be added to the ICSSL, contact the Massachusetts Division of Food and Drugs (617-983-6712) and request an ICSSL inspection.

Additional information is available at: www.issc.org

To access a copy of Massachusetts regulations 105 CMR 533 *Fish and Fish Products*, go to www.state.ma.us/dph/fpp/fish11_01.pdf or a State Bookstore. For 105 CMR 500 *Good Manufacturing Practices for Food*, contact a State Bookstore:

Massachusetts State House

Beacon Street, Room 116

Boston, MA, 02133

or telephone:

Boston: 617-727-2834

Fall River: 508-646-1374

Springfield: 413-784-1376

To access copies of federal regulations, 21 CFR 110 *Current Good Manufacturing Practices*, go to http://www.access.gpo.gov/nara/cfr/waisdx_01/21cfr123_01.htm and 21 CFR 123 *The Seafood HACCP Regulation*, go to http://www.access.gpo.gov/nara/cfr/waisdx_01/21cfr123_01.htm

Or to purchase, contact: U.S. Government Printing Office, 1-866-512-1800, and order Code of Federal Regulations, Title 21, Food and Drugs, Parts 100-169 (869-044-00060-1)

In January 2001 the Food Protection Program produced the first edition of the brochure, **Massachusetts Shellfish Harvesting and Distribution**. This second edition, in brochure format, can be downloaded from the Web.

The brochure format must be printed on 8.5 inch x 14 inch paper (legal size) paper.
www.state.ma.us/dph/fpp/4folds~1.pdf

A text format which can be printed on standard 8.5 inch by 11 inch paper is located at:
www.state.ma.us/dph/fpp/webshell.pdf

Shellfish Tags must be durable, water-proof, at least 2 5/8" X 5 1/4" in size, and in the following format:

Harvester Tag

NAME _____
HARVESTER PERMIT # _____
HARVEST DATE: _____
HARVEST AREA: _____
TYPE OF SHELLFISH: _____
QUANTITY OF SHELLFISH: _____
THIS TAG IS REQUIRED TO BE ATTACHED UNTIL THE CONTAINER IS EMPTY OR RETAGGED, AND THEREAFTER KEPT ON FILE FOR 90 DAYS.

Dealer Tag

PERISHABLE KEEP REFRIGERATED	YOUR NAME ADDRESS & PHONE YOUR CERTIFICATION #						
ORIGINAL SHIPPER'S CERT. No. IF OTHER THAN ABOVE: _____							
HARVEST DATE: _____	SHIPPING DATE: _____						
HARVEST LOCATION: _____							
TYPE OF SHELLFISH: _____							
QUANTITY OF SHELLFISH: _____							
_____ BUSHELS _____ POUNDS	_____ COUNT _____ OTHER						
THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY AND THEREAFTER KEPT ON FILE FOR 90 DAYS.							
TO:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; padding: 5px;">RESHIPPER'S CERT. No.</th> <th style="width: 50%; padding: 5px;">DATES RESHIPPED</th> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> </table>	RESHIPPER'S CERT. No.	DATES RESHIPPED				
RESHIPPER'S CERT. No.	DATES RESHIPPED						

Dealer tags must include the following statement (may be printed on back of the tag) : *“Retailers inform your customers: Consuming raw or undercooked meats, poultry, seafood, shellfish or eggs may increase your risk of foodborne illness, especially if you have certain medical conditions.”*

January 2002, 2nd edition Ô

**Food Safety and Inspection Service
United States Department of Agriculture
Washington, D.C. 20250-3700**

Barbecue Food Safety

http://www.fsis.usda.gov/OA/pubs/facts_barbecue.htm

Cooking outdoors was once only a summer activity shared with family and friends. Now more than half of Americans say they are cooking outdoors year round. So whether the snow is blowing or the sun is shining brightly, it's important to follow food safety guidelines to prevent harmful bacteria from multiplying and causing foodborne illness. Use these simple guidelines for grilling food safely.

From the Store: Home First

- When shopping, buy cold food like meat and poultry last, right before checkout. Separate raw meat and poultry from other food in your shopping cart. To guard against cross-contamination -- which can happen when raw meat or poultry juices drip on other food -- put packages of raw meat and poultry into plastic bags.
- Load meat and poultry into the coolest part of the car and take the groceries straight home. In the summer, if home is more than a 30-minute drive away, bring a cooler with ice and place perishable food in it for the trip.
- At home, place meat and poultry in the refrigerator immediately. Freeze poultry and ground meat that won't be used in 1 or 2 days; freeze other meat within 4 to 5 days.

Defrost Safely

- Completely defrost meat and poultry before grilling so it cooks more evenly. Use the refrigerator for slow, safe thawing or thaw sealed packages in cold water. You can microwave defrost if the food will be placed immediately on the grill.

Marinating

- Meat and poultry can be marinated for several hours or days to tenderize or add flavor. Marinate food in the refrigerator, not on the counter. If some of the marinade is to be used as a sauce on the cooked food, reserve a portion of the marinade before putting raw meat and poultry in it. However, if the marinade used on raw meat or poultry is to be reused, make sure to let it come to a boil first to destroy any harmful bacteria.

Transporting

- When carrying food to another location, keep it cold to minimize bacterial growth. Use an insulated cooler with sufficient ice or ice packs to keep the food at 40°F or below. Pack food right from the refrigerator into the cooler immediately before leaving home. Keep the cooler in the coolest part of the car.

Keep Cold Food Cold

- Keep meat and poultry refrigerated until ready to use. Only take out the meat and poultry that will immediately be placed on the grill.
- When using a cooler, keep it out of the direct sun by placing it in the shade or shelter. Avoid opening the lid too often, which lets cold air out and warm air in. Pack beverages in one cooler and perishables in a separate cooler.

Keep Everything Clean

- Be sure there are plenty of clean utensils and platters. To prevent foodborne illness, don't use the same platter and utensils for raw and cooked meat and poultry. Harmful bacteria present in raw meat and poultry and their juices can contaminate safely cooked food.
- If you're eating away from home, find out if there's a source of clean water. If not, bring water for preparation and cleaning. Or pack clean cloths, and wet towelettes for cleaning surfaces and hands.

Precooking

- Precooking food partially in the microwave, oven, or stove is a good way of reducing grilling time. Just make sure that the food goes immediately on the preheated grill to complete cooking.

Cook Thoroughly

- Cook food to a safe internal temperature to destroy harmful bacteria. Meat and poultry cooked on a grill often browns very fast on the outside. Use a food thermometer to be sure the food has reached a safe internal temperature. Whole poultry should reach 180°F; breasts, 170°F. Hamburgers made of ground beef should reach 160°F; ground poultry, 165°F. Beef, veal, and lamb steaks, roasts and chops can be cooked to 145°F. All cuts of pork should reach 160°F.
- NEVER partially grill meat or poultry and finish cooking later.

Reheating

- When reheating fully cooked meats like hot dogs, grill to 165°F or until steaming hot.

Keep Hot Food Hot

- After cooking meat and poultry on the grill, keep it hot until served - at 140°F or warmer.
- Keep cooked meats hot by setting them to the side of the grill rack, not directly over the coals where they could overcook. At home, the cooked meat can be kept hot in a warm oven (approximately 200°F), in a chafing dish or slow cooker, or on a warming tray.

Serving the Food

- When taking food off the grill, use a clean platter. Don't put cooked food on the same platter that held raw meat or poultry. Any harmful bacteria present in the raw meat juices could contaminate safely cooked food.
- In hot weather (90°F and above), food should never sit out for more than 1 hour.

Leftovers

- Refrigerate any leftovers promptly in shallow containers. Discard any food left out more than 2 hours (1 hour if temperatures are above 90°F).

Safe Smoking

- Smoking is cooking food **indirectly** in the presence of a fire. It can be done in a covered grill if a pan of water is placed beneath the meat on the grill; and meats can be smoked in a "smoker," which is an outdoor cooker especially designed for smoking foods. Smoking is done much more slowly than grilling, so less tender meats benefit from this method, and a natural smoke flavoring permeates the meat. The temperature in the smoker should be maintained at 250°F to 300°F for safety.
- Use a food thermometer to be sure the food has reached a safe internal temperature.

Pit Roasting

- Pit roasting is cooking meat in a large, level hole dug in the earth. A hardwood fire is built in the pit, requiring wood equal to about 2 1/2 times the volume of the pit. The hardwood is allowed to burn until the wood reduces and the pit is half filled with burning coals. This can require 4 to 6 hours burning time.
- Cooking may require 10 to 12 hours or more and is difficult to estimate. **A meat thermometer must be used to determine the meat's safety and doneness.** There are many variables such as outdoor temperature, the size and thickness of the meat, and how fast the coals are cooking.

Does Grilling Pose a Cancer Risk?

- Some studies suggest there may be a cancer risk related to eating food cooked by high-heat cooking techniques as grilling, frying, and broiling. Based on present research findings, eating moderate amounts of grilled meats like fish, meat, and poultry cooked -- **without charring** -- to a safe temperature does not pose a problem.
- To prevent charring, remove visible fat that can cause a flare-up. Precook meat in the microwave immediately before placing it on the grill to release some of the juices that can drop on coals. Cook food in the center of the grill and move coals to the side to prevent fat and juices from dripping on them. Cut charred portions off the meat.

For further information, contact:

Meat and Poultry Hotline:
1-800-535-4555 (Toll-free Nationwide)
(202) 720-3333 (Washington, DC area)
1-800-256-7072 (TTY)
FSIS Web site: www.fsis.usda.gov 

Molds On Food: Are They Dangerous?

Some molds cause allergic reactions and respiratory problems. And a few molds, in the right conditions, produce "mycotoxins," poisonous substances that can make people sick. When you see mold on food, is it safe to cut off the moldy part and use the rest? To find the answer to that question, delve beneath the surface of food to where molds take root.

What Are Molds?

Molds are microscopic fungi that live on plant or animal matter. No one knows how many species of fungi exist, but estimates range from tens of thousands to perhaps 300,000 or more. Most are filamentous (threadlike) organisms and the production of spores is characteristic of fungi in general. These spores can be transported by air, water, or insects.

Unlike bacteria that are one-celled, molds are made of many cells and can sometimes be seen with the naked eye. Under a microscope, they look like skinny mushrooms. In many molds, the body consists of:

- root threads that invade the food it lives on,
- a stalk rising above the food, and
- spores that form at the ends of the stalks.

The spores give mold the color you see. When airborne, the spores spread the mold from place to place like dandelion seeds blowing across a meadow.

Molds have branches and roots that are like very thin threads. The roots may be difficult to see when the mold is growing on food and may be very deep in the food. Foods that are moldy may also have invisible bacteria growing along with the mold.

Are Some Molds Dangerous?

Yes, some molds cause allergic reactions and respiratory problems. And a few molds, in the right conditions, produce "mycotoxins," poisonous substances that can make you sick. Are Molds Only on the Surface of Food? No, you only see part of the mold on the surface of food -- gray fur on forgotten bologna, fuzzy green dots on bread, white dust on Cheddar, coin-size velvety circles on fruits, and furry growth on the surface of jellies. When a food shows heavy mold growth, "root" threads have invaded it deeply. In dangerous molds, poisonous substances are often contained in and around these threads. In some cases, toxins may have spread throughout the food.

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Where Are Molds Found?

Molds are found in virtually every environment and can be detected, both indoors and outdoors, year round. Mold growth is encouraged by warm and humid conditions. Outdoors, they can be found in shady, damp areas or places where leaves or other vegetation are decomposing. Indoors, they can be found where humidity levels are high.

Molds form spores which, when dry, float through the air and find suitable conditions where they can start the growth cycle again.

What Are Some Common Foodborne Molds?

Molds most often found on meat and poultry are *Alternaria*, *Aspergillus*, *Botrytis*, *Cladosporium*, *Fusarium*, *Geotrichum*, *Monilia*, *Manosculus*, *Mortierella*, *Mucor*, *Neurospora*, *Oidium*, *Oosproa*, *Penicillium*, *Rhizopus* and *Thamnidium*. These molds can also be found on many other foods.

What Are Mycotoxins?

Mycotoxins are poisonous substances produced by certain molds found primarily in grain and nut crops, but are also known to be on celery, grape juice, apples, and other produce. There are many of them and scientists are continually discovering new ones. The Food and Agriculture Organization (FAO) of the United Nations estimates that 25% of the world's food crops are affected by mycotoxins, of which the most notorious are aflatoxins.

What is Aflatoxin?

Aflatoxin is a cancer-causing poison produced by certain fungi in or on foods and feeds, especially in field corn and peanuts. They are probably the best known and most intensively researched mycotoxins in the world. Aflatoxins have been associated with various diseases, such as aflatoxicosis in livestock, domestic animals, and humans throughout the world. Many countries try to limit exposure to aflatoxin by regulating and monitoring its presence on commodities intended for use as food and feed. The prevention of aflatoxin is one of the most challenging toxicology issues of present time. How Does the U.S. Government Control Aflatoxins? Aflatoxins are considered unavoidable contaminants of food and feed, even where good manufacturing practices have been followed. The U.S. Food and Drug Administration and the USDA monitor peanuts and field corn for aflatoxin and can remove any food or feed with unacceptable levels of it.

How Does the U.S. Government Control Aflatoxins?

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Is Mushroom Poisoning Caused by Molds?

No, it is due to the toxin produced by the fungi, which are in the same family as molds. Mushroom poisoning is caused by the consumption of raw or cooked mushrooms, which are higher-species of fungi. The term "toadstool" (from the German "Todesstuhl" -- death's stool) is commonly given to poisonous mushrooms, but there is no general rule of thumb for distinguishing edible mushrooms from poisonous toadstools. The toxins that cause mushroom poisoning are produced naturally by the fungi. Most mushrooms that cause human poisoning cannot be made safe by cooking, canning, freezing, or any other processing. The only way to avoid poisoning is not to eat poisonous mushrooms.

Are Any Food Molds Beneficial?

Yes, molds are used to make certain kinds of cheeses and can be on the surface of cheese or be developed internally. Blue veined cheese such as Roquefort, blue, Gorgonzola, and Stilton are created by the introduction of *P. roqueforti* or *Penicillium roqueforti* spores. Cheeses such as Brie and Camembert have white surface molds. Other cheeses have both an internal and a surface mold. The molds used to manufacture these cheeses are safe to eat.

Why Can Mold Grow in the Refrigerator?

While most molds prefer warmer temperatures, they can grow at refrigerator temperatures, too. Molds also tolerate salt and sugar better than most other food invaders. Therefore, molds can grow in refrigerated jams and jelly and on cured, salty meats -- ham, bacon, salami, and bologna.

How Can You Minimize Mold Growth?

Cleanliness is vital in controlling mold. Mold spores from affected food can build up in your refrigerator, dishcloths, and other cleaning utensils.

- Clean the inside of the refrigerator every few months with 1 tablespoon of baking soda dissolved in a quart of water. Rinse with clear water and dry. Scrub visible mold (usually black) on rubber casings using 3 teaspoons of bleach in a quart of water.
- Keep dishcloths, towels, sponges, and mops clean and fresh. A musty smell means they're spreading mold around. Discard items you can't clean or launder.
- Keep the humidity level in the house below 40%.

Don't Buy Moldy Foods

Examine food well before you buy it. Check food in glass jars, look at the stem areas on fresh produce, and avoid bruised produce. Notify the store manager about mold on foods!

Fresh meat and poultry are usually mold free, but cured and cooked meats may not be. Examine them carefully. Exceptions: Some salamis -- San Francisco, Italian, and Eastern European types -- have a characteristic thin, white mold coating which is safe to consume; however, they shouldn't show any other mold. Dry-cured country hams normally have surface mold that must be scrubbed off before cooking.

Must Homemade Shelf-Stable Preserves be Water-Bath Processed?

Yes, molds can thrive in high-acid foods like jams, jellies, pickles, fruit, and tomatoes. But these microscopic fungi are easily destroyed by heat processing high-acid foods at a temperature of 212 °F in a boiling water canner for the recommended length of time. For more information about processing home-canned foods, go to: <http://foodsafety.cas.psu.edu/presquerryform.cfm> or www.homecanning.com/usa.

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How Can You Protect Food from Mold?

- When serving food, keep it covered to prevent exposure to mold spores in the air. Use plastic wrap to cover foods you want to stay moist -- fresh or cut fruits and vegetables, and green and mixed salads.
- Empty opened cans of perishable foods into clean storage containers and refrigerate them promptly.
- Don't leave any perishables out of the refrigerator more than 2 hours.
- Use leftovers within 3 to 4 days so mold doesn't have a chance to grow.

How Should You Handle Food with Mold on It?

Buying small amounts and using food quickly can help prevent mold growth. But when you see moldy food:

- Don't sniff the moldy item. This can cause respiratory trouble.
- If food is covered with mold, discard it. Put it into a small paper bag or wrap it in plastic and dispose in a covered trash can that children and animals can't get into.
- Clean the refrigerator or pantry at the spot where the food was stored.
- Check nearby items the moldy food might have touched. Mold spreads quickly in fruits and vegetables.
- See the attached chart "Moldy Food: When to Use, When to Discard."

For additional food safety information about meat, poultry, or egg products, call the toll-free USDA Meat and Poultry Hotline at

**1 (800) 535-4555;
Washington, DC area, (202) 720-3333;
for the hearing-impaired (TTY) 1 (800) 256-7072.**

The Hotline is staffed by food safety experts weekdays from 10 a.m. to 4 p.m. Eastern time. Food safety recordings can be heard 24 hours a day using a touch-tone phone.

Information is also available from the FSIS Web site: <http://www.fsis.usda.gov> Ⓞ

Moldy Food: When to Use, When to Discard

Note: Anyone who is knowingly allergic to molds should discard the entire food item containing mold

FOOD	HANDLING	REASON
Luncheon meats, bacon, or hot dogs	Discard	Foods with high moisture content can be contaminated below the surface. Moldy foods may also have bacteria growing along with the mold.
Hard salami and dry-cured country hams	Use. Scrub mold off surface.	It is normal for these shelf-stable products to have surface mold.
Cooked leftover meat and poultry	Discard	Foods with high moisture content can be contaminated below the surface. Moldy foods may also have bacteria growing along with the mold.
Cooked casseroles	Discard	Foods with high moisture content can be contaminated below the surface. Moldy foods may also have bacteria growing along with the mold.
Cooked grain and pasta	Discard	Foods with high moisture content can be contaminated below the surface. Moldy foods may also have bacteria growing along with the mold.
Hard cheese (not cheese where mold is part of the processing)	Use. Cut off at least 1 inch around and below the mold spot (keep the knife out of the mold itself so it will not cross-contaminate other parts of the cheese). After trimming off the mold, re-cover the cheese in fresh wrap.	Mold generally cannot penetrate deep into the product.
Cheese made with mold (such as Roquefort, blue, Gorgonzola, Stilton, Brie, Camembert)	Discard soft cheeses such as Brie and Camembert if they contain molds that are not a part of the manufacturing process. If surface mold is on hard cheeses such as Gorgonzola and Stilton, cut off mold at least 1 inch around and below the mold spot and handle like hard cheese (above).	Molds that are not a part of the manufacturing process can be dangerous.

FOOD	HANDLING	REASON
Soft cheese (such as cottage, cream cheese, Neufchatel, chevre, Bel Paese, etc.) Crumbled, shredded, and sliced cheeses (all types)	Discard	Foods with high moisture content can be contaminated below the surface. Shredded, sliced, or crumbled cheese can be contaminated by the cutting instrument. Moldy soft cheese can also have bacteria growing along with the mold.
Yogurt and sour cream	Discard	Foods with high moisture content can be contaminated below the surface. Moldy foods may also have bacteria growing along with the mold.
Jams and jellies	Discard	The mold could be producing a mycotoxin. Microbiologists recommend against scooping out the mold and using the remaining condiment.
Fruits and vegetables, firm	Use. Cut off at least 1 inch around and below the mold spot (keep the knife out of the mold itself so it will not cross-contaminate other parts of the produce).	Small mold spots can be cut off fruits and vegetables with low moisture content (cabbage, bell peppers, carrots, etc.). It's difficult for mold to penetrate dense foods.
Fruits and vegetables, soft	Discard	Fruits and vegetables with high moisture content (cucumbers, peaches, tomatoes, etc.) can be contaminated below the surface.
Bread and baked goods	Discard	Porous foods can be contaminated below the surface.
Peanut butter, legumes and nuts	Discard	Foods processed without preservatives are at high risk for mold.

For Further Information Contact:

FSIS Food Safety Education Staff

Meat and Poultry Hotline:

- 1-800-535-4555 (Tollfree Nationwide)
- (202) 720-3333 (Washington, DC area)
- 1-800-256-7072 (TDD/TTY)
- E-mail: mph hotline.fsis@usda.gov

Water Efficiency & Management for Restaurants **<http://www.mwra.state.ma.us/water/html/bullet3.htm>**

The MWRA's Industrial, Commercial and Institutional (ICI) Program was developed to help businesses, industries and institutions improve their water efficiency. Since its formation in 1989, the ICI program has helped many companies in the MWRA service area reduce their water consumption, thereby reducing operational costs.

Over the last few years, the ICI program has completed almost a dozen surveys and water efficiency plans for both large and small restaurants. These are businesses providing meals in traditional restaurants as well as in hotels and commercial buildings that serve food in cafeterias.

Local restaurants ranging in size capacity from 85 seats to 1,500 seats and serving an average of 2,000 meals per week up to 40,000, have benefited from the MWRA's water efficiency studies. Water consumption has ranged from under 1 million gallons to 13 million gallons per year with the amount of water used to produce a meal ranging from 6 gallons per meal to 29 gallons per meal.

WATER MANAGEMENT PLAN

Initiate a water management plan at your facility with the following steps:

- Management support
- Employee interest, input and ideas
- Customer participation (Bathroom mirror stickers encouraging water conservation are available)
- Identify all water using systems and equipment
- Determine how much water your facility uses
- Look for ways to reduce overall water consumption

The ICI program has instructional guides that will help you start a water management plan of your own at your facility.

Important Note: Before implementing a water conservation measure be sure to follow all rules and regulations regarding public health and safety requirements and the Massachusetts Plumbing Code.

Listed below are some suggestions and examples of Water Efficiency Measures (WEMs) for restaurants that have proven successful or have potential applications in businesses in the MWRA service area. Water and sewer rates, as well as cost/savings payback, are based on 1993 figures for all examples.

KITCHEN OPERATIONS

Dishwashers

- Reduce prewash spray fixtures to minimum necessary.
- Check with manufacturer to see if dishwasher spray heads can be replaced with more efficient heads, or if flow regulators can be installed.
- Operate dishwashers with full loads only and shut off when they are not in use. In conveyor type washer, ensure that water flow stops when there are no dishes in the washer. Install a sensing arm, or ware gate that will detect the presence of dishes and shut off water when there are no dishes on the conveyor.

- Evaluate reuse of rinse water for garbage disposer or scrapper trough.

Case Study Example #1

Bob the Chef's, in Boston's South End, can save an estimated 51,000 gallons of heated water per year by replacing their prewash spray head with a low flow model. This measure results in a savings of \$540 in water and energy costs. With an initial investment of \$200 the payback is realized in under five months.

Case Study Example #2

Anthony's Pier 4 in Boston has an opportunity to save approximately 225,000 gallons of water annually with the installation of a dishware sensing gate in one of their dishwashers. The initial cost of the device is \$1,200, and the value of heated water saved is \$2,700 per year. The payback occurs in approximately five months.

Other Items

- Check flow of water to scrapper trough and reduce to minimum necessary. In larger establishments consider a conveyer-type scrapper system.
- Control the flow of water to the garbage disposer with a solenoid valve that shuts the water off when the unit is not operating or, if possible, consider eliminating the use of garbage disposers altogether.
- Turn off continuous flows or unnecessary flows in areas such as food prep and wash down.
- Minimize flow of running water for thawing foods following code of Massachusetts regulations (CMR 105).

COOLING

- Replace water-cooled ice machines with air-cooled units where possible, or retrofit with air-cooled condensers.
- Retrofit once-through water cooled refrigeration units, air conditioners, and ice machines by using temperature controls and a recirculating chilled water loop system.

Case Study Example #3

Pillar House in Newton has a water cooled ice machine and two condensers for a walk-in cooler and freezer. If these water-cooled units were converted to air-cooled, the annual water savings from this measure would be approximately 1.04 million gallons of water valued at \$5,820. The additional electrical cost is \$375 per year for a net savings of \$5,445 per year and a payback of the initial investment is realized in 1.3 years.

Case Study Example #4

The Hilltop Steak House in Saugus has three water-cooled refrigerators and two ice machines that use once through cooling. By incorporating this equipment into a recirculating closed loop cooling system the restaurant can save an estimated 5.3 million gallons of water per year valued at \$26,500. The cost of this measure is approximately \$27,000 which results in a payback of about one year.

SANITARY

- Install Massachusetts Plumbing Code conforming aerators or spring loaded valves on all faucets.
- Retrofit tank-type toilets with displacement devices or dams, or replace existing toilets and urinals

with plumbing code conforming ultra low flush (ULF) models. ULF toilets use 1.6 gallons per flush (gpf), and ULF urinals use 1.0 gpf.

- Retrofit flushometer toilets and urinals with low consumption valve replacement kits or replace existing flushometer toilets and urinals with low consumption models. Note: If replacing fixtures incrementally, priority should be given to those fixtures used most frequently.
- If remodeling bathrooms for ADA compliance, replace fixtures with ULF units.

Case Study Example #5

Union House in Framingham has seven sinks that can be fitted with 1.5 gallon per minute (gpm) aerators which would result in an annual water and energy savings of \$170 dollars. The cost to retrofit the sinks is around \$20, and payback for this simple measure is under two months.

Case Study Example #6

Another water saving opportunity for Anthony's Pier 4 involves replacing seventeen flushometer toilets and seven flushometer urinals with ULF models. The project cost is \$6,700 with an annual water savings of 1.1 million gallons worth \$8,500. This results in a payback of less than ten months.

BUILDING MAINTENANCE

- Read water meters weekly or monthly to monitor your water usage. The MWRA has a bulletin, "Improving Water Efficiency" to help in tracking your facility's water use.
- Find and repair leaks.

**A leaking faucet can waste up to 1000 gallons of water a week –
that's over \$300 per year lost. Ô**

Massachusetts Drought Management Task Force Tips for Saving Water - Indoors and Outdoors

<http://www.state.ma.us/mema/news/prdocs/030802>

OUTDOOR WATER USE

Abide by local water use restrictions

Local water suppliers know the limits of their system and will enact voluntary or mandatory restrictions accordingly. Always follow the advice or restrictions provided by your local water supplier.

Stop watering your lawn during drought conditions

Most lawns can survive extended dry periods without watering – they will turn brown, but will revive once the rain returns.

If you water your lawn, water only as needed

Frequent light watering can actually weaken your lawn by encouraging shallow roots that are less tolerant of dry periods. Water your lawn only as needed, generally no more than once or twice a week. A good test is to walk across the lawn. If the grass springs back up, it does not need to be watered.

Timing is critical for lawn watering

The best time to water your lawn is early morning (4 to 6 AM). Avoid watering at mid-day to prevent high evaporation and sun-burned grass.

Use shut-off nozzles on hoses and automatic shut-off devices on irrigation systems.

Unattended hoses can use 10 gallons or more per minute. Use shut-off nozzles to save water. Also, if you have an in-ground irrigation system, use a rain shut-off device that prevents the system from operating during rainstorms.

Capture and reuse rainwater

Use cisterns or rain barrels to capture rainwater from downspouts for use in your yard. A lid, mesh fabric or several drops of baby oil on the surface will prevent mosquitoes from breeding.

Keep your blades sharp and high

Keep your mower blades sharp to prevent tearing of grass and raise your lawn mower's blade to 2 1/2". Longer grass provides shade for the roots and helps reduce water loss.

Use plants that need less water

There are many varieties of low water use plants that can withstand dry summers and that actually thrive in drier soil.

Plan and design your garden for efficient outdoor watering

Be aware of the various shade and moisture zones in your yard and plan your gardens and plantings accordingly.

Mulch to keep roots cool and moist

Mulch can serve as a ground cover that reduces water evaporation from the soil while reducing the number of weeds that compete for soil moisture.

KITCHEN

Prepare food efficiently

Speed cleaning food by using a vegetable brush. Spray water in short bursts. Faucet aerators cut consumption.

Defrost sensibly

Plan ahead to defrost foods overnight in the refrigerator. Don't use running water. Use the microwave or put wrapped food in a bowl of cold water.

Reduce dishwashing

Use rubber spatula to scrape dishes clean to limit pre-rinse. Let really dirty pans or dishes soak to speed washing. Most newer dishwashers don't require pre-rinsing. Limit dishwasher use to full loads.

Reuse clean household water

Collect all the water that is wasted while waiting for the hot water to reach your faucet or showerhead. Use this to water your houseplants or outdoor planters. Do the same with water that is used to boil eggs or steam vegetables.

Garbage disposal alternatives

Avoid using your garbage disposal. Compost leftovers fruits and vegetables.

BATHROOM**Fix leaking faucets and toilets**

Research has shown that an average of 8% (or more) of all home water use is wasted through leaks. Test for a leaking toilet by lifting the lid off the toilet tank and putting a few drops of food coloring into the bowl. Wait a few minutes, then look in the bowl. If the food coloring has made its way there, you have a leak.

Install a low-flow toilet

Low-flow toilets need only 1.6 gallons per flush, saving thousands of gallons per year. Unlike earlier models, low flow toilets available today receive high marks from consumers for overall performance.

Avoid using the toilet as a wastebasket

Every flush you eliminate can save between two and seven gallons of water.

Brush teeth efficiently

Don't let the water run while you brush your teeth or shave. Turn the faucet on briefly to rinse. An electric razor saves water.

Conserve water in the tub

Take showers instead of a bath and save 30 gallons. Filling the bathtub uses about 50 gallons of water. Try filling it just half way.

Shorten your shower by one minute

Cut back on your shower time and you will rack up big savings in water and energy. If you really want to try and save water, limit your shower time to five minutes or less. Also, install a water-saving showerhead that uses two-and-a-half gallons per minute.

LAUNDRY**Wash only full loads of laundry**

You'll not only save water, but energy as well.

Consider purchasing a new water- and energy- efficient clothes washer

Look for the Energy Star labeled products and save more water in one year than a person drinks in a lifetime. These units create less wear and tear on clothes, clean better, and use less detergent. Some electric utilities offer rebates for qualified models.

WATER CONSERVATION ON THE WEB

MWRA: www.mwra.state.ma.us/water/html/wat.htm

Danvers: www.danvers-ma.org/midpond.htm


Concord: www.concordnet.org/dpw/index.html

WWA: www.waterwiser.org/

EPA's EnergyStar Program: www.energystar.gov/

New York City: www.ci.nyc.ny.us/html/dep/html/hcisw.html

North Andover : www.northandoverwaterdept.com/Water%20Conservation.htm

DEP Model Water Use Restriction Bylaw/Ordinance: www.state.ma.us/dep/brp/dws/files/wmabylaw.pdf 

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